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PATENT DOCKET 207,768

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Hollander, et al. EXAMINER:  
SERIAL NO.: Not yet known ART UNIT:  
Based on PCT/EP2005/050817  
FILED: August 17, 2006  
FOR: HYARULONIC ACID DERIVATIVE BASED THREE-  
DIMENSIONAL MATRIX

Date: January 18, 2007

STATEMENT OF FILING BY EXPRESS MAIL 37 C.F.R. § 1.10

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INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This Information Disclosure Statement (hereinafter sometimes referred to as "IDS") is submitted in accordance with 37 C.F.R. 1.97, 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

1. This IDS should be considered, in accordance with 37 C.F.R. 1.97, as it is filed:

(Check one of the boxes opposite A-D)

☐ A. within three months of the filing date of the above-identified national application or within three months of the date of entry of the national stage as set forth in 37 C.F.R. 1.491 in the above-identified international application.

☒ B. before the mailing date of a first office action on the merits.

☐ C. after the times set forth in (A) and (B) above, but before the mailing date of either a final action under 37 C.F.R. 1.113 or a notice of allowance under 37 C.F.R. 1.311, and the necessary statement pursuant to 37 C.F.R. 1.97(e) appears below (see box "i") or the necessary fee is enclosed (see box "ii" below).

(check one of the boxes opposite "i" or "ii" below)

☐ i. (check the applicable statement)

☐ I, the undersigned, hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☐ I, the undersigned, hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. §1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

☐ ii. A check for the fee set forth in 37 C.F.R. 1.17(p), presently believed to be \$180.00, is enclosed.

☐ D. after the times set forth in (A), (B), and (C) above, but before payment of the issue fee, since Applicant petitions for the consideration of this Information Disclosure Statement by a petition enclosed herewith pursuant to 37 C.F.R. 1.97(d)(2), a check for the petition fee set forth in 37 C.F.R. 1.17(i), presently believed to be \$ 130.00, is enclosed, and the necessary statement pursuant to 37 C.F.R. 1.97(e) appears below:

(check the applicable statement)

☐ I, the undersigned, hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☐ I, the undersigned, hereby state that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

2. In accordance with 37 C.F.R. 1.98(a)(1), this IDS includes a list on form PTO-1449 of all patents, publications, or other information submitted for consideration by the Office, incorporated into this IDS as an attachment hereto. Pursuant to 37 C.F.R. 1.98(b): (i) each U.S. patent listed is identified by patentee, patent number, and issue date; (ii) each foreign patent or published foreign patent application is identified by the country or patent office which issued the patent or published the application, an appropriate document number, and the publication date indicated on the patent or published application; and (iii) each publication is identified by author (if any), title, relevant pages of the publication, date, and place of publication. A legible copy of each document listed is attached and incorporated into this IDS, except that no copy of any U.S. patent application is included pursuant to 37 C.F.R. 1.98(a)(2)(iii) and except as explained below.

(check the boxes opposite A and/or B and fill in blanks, if appropriate)

☐ A. Document(s) \_\_\_\_\_ is (are) substantively cumulative to document(s) \_\_\_, and, in accordance with 37 C.F.R. 1.98(c), only a copy of each of the latter document(s) is (are) attached.

☐ B. Certain documents were previously cited by or submitted to the Office in the following prior application(s), which are relied upon for an earlier filing date under 35 U.S.C. 120:

[insert serial numbers and filing dates of prior applications]

These documents are identified by attaching hereto copies of the forms PTO-892 and/or PTO-1449 from the files of the prior application(s) and Applicant requests that they be considered and made of record in this application in accordance with 37 C.F.R. 1.98(d). Pursuant to 37 C.F.R. 1.98(d), copies of these documents need not be provided with this IDS.

(check paragraphs 3 and/or 4, if applicable)

☐ 3. Document(s) \_\_\_\_\_ is (are) not in the English language. In accordance with 37 C.F.R. 1.98(a)(3), 1.98(c), it is stated that:

(check the applicable statement(s))

☐ English translation(s) of the document(s) \_\_\_\_\_ (or of the pertinent portions thereof) is (are) enclosed and, thus no concise explanation of their relevance is required, (see M.P.E.P., 609, p. 600-92).

☐ English-language equivalent(s) of the document(s) \_\_\_\_\_ (or of the pertinent portions thereof) which is (are) in fact translation(s) of the document(s) is (are) enclosed.

☐ The attached English-language version of a search report or other action by a foreign patent office in a counterpart foreign application which cites document(s) \_\_\_\_\_ and which indicates the degree of relevance found by the foreign office is submitted to satisfy the requirement for a concise explanation of the relevance of the document(s), (see M.P.E.P., 609, p. 600-93).

☐ A concise explanation of the relevance of document(s) \_\_\_\_\_ is set forth as follows:

[insert concise explanation of relevance]

☐ A concise explanation of the relevance of document(s) \_\_\_\_\_ can be found on page(s) \_\_\_\_\_ of the specification.

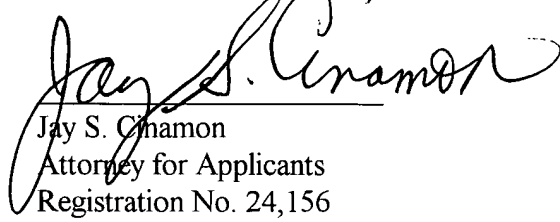
☐ A concise explanation of the relevance of document(s) \_\_\_\_\_ can be found on the attached sheet.

☐ 4. Other information being provided for the Examiner's consideration follows:

5. In accordance with 37 C.F.R. 1.97(g), 1.97(h), the filing of this IDS shall not be construed as a representation that a search has been made or as an admission that information cited in this IDS is, or is considered to be, material to patentability as defined in 37 C.F.R. 1.56(b). Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant reserves the right to prove that the date of publication is in fact different.

6. Please charge any deficiency or other fees or credit any refund or overpayment to Deposit Account No. 01-0035.

Respectfully submitted,

  
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Form PTO-1449  
(Rev. 7-80)U.S. Department of Commerce  
Patent and Trademark OfficeAtty. Docket Control No.  
207,768Serial No.  
Not yet known, based on  
PCT/EP2005/050817INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION  
(Use several sheets if necessary)

Applicant Hollander, et al.

Filing Date  
August 17, 2006

Group

## U.S. PATENT DOCUMENTS

*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
AA						
AB						

## FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation YES NO
AC	WO 02 07 0 0 3 0	12/09/2002	WIPO			
AD	WO 02 05 3 2 0 1	11/07/2002	WIPO			
AE	WO 00 3 7 1 2 4	29/06/2000	WIPO			
AF						

## OTHER RELATED ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AG	Dickinson et al., "Implantation of chondrocytes seeded on esterified hyaluronic acid scaffolds in human knees," <u>Tissue Engineering</u> , vol. 9, no. 4, August 2003, page 809. Abstract.
AH	Grigolo et al., "Transplantation of chondrocytes seeded on a hyaluronan derivative Hyaff-11 into cartilage defects in rabbits," <u>Biomaterials</u> , Elsevier Science Publishers, September 2001, pages 2417-2424.
AI	Kafienah et al., "Inhibition of cartilage degradation," <u>Arthritis &amp; Rheumatism</u> , Vol. 48, No. 3, March 2003, pp. 709-718.
AJ	Van Beuningen et al., "In vivo effects of interleukin-1 on articular cartilage," <u>Arthritis and Rheumatism</u> , Vol. 34, No. 5, May 1991, pp. 606-615.
AK	Caron et al., "Chondroprotective effect of intraarticular injections of interleukin-1 receptor antagonist in experimental osteoarthritis," <u>Arthritis &amp; Rheumatism</u> , Vol. 39 No. 9, September 1996, pp. 1535-1544.
AL	Arend et al., "Inhibition of the production and effects of interleukin-1 and tumor necrosis factor $\alpha$ in rheumatoid arthritis," <u>Arthritis &amp; Rheumatism</u> , Volume 38, Number 2, February 1995, pp. 151-160.
AM	Ghosh et al., "Potential mechanism of action of intra-articular hyaluronan therapy in osteoarthritis: are the effects molecular weight dependent?" <u>Seminars in Arthritis and Rheumatism</u> , Vol 32, No. 1, August 2002, pp. 10-37.

Examiner

Date Considered

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449  
(Rev. 7-80)U.S. Department of Commerce  
Patent and Trademark OfficeAtty. Docket Control No.  
207,768Serial No.  
Not yet known, based on  
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IN AN APPLICATION

(Use several sheets if necessary)

Applicant Hollander, et al.

Filing Date  
August 17, 2006Group  
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*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
AA						
AB						

## FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Subclass	Translation YES NO
AC					
AD					
AE					

## OTHER RELATED ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AF	Stove et al., "Effects of hyaluronan on proteoglycan content of osteoarthritic chondrocytes in vitro," <u>Journal of Orthopaedic Research</u> , Elsevier Science Ltd., 20, 2002, pp. 551-555.
AG	Freed et al., "Neocartilage formation <i>in vitro</i> and <i>in vivo</i> using cells cultured on synthetic biodegradable polymers," <u>Journal of Biomedical Materials Research</u> , Vol. 27, 1993, pp. 11-23.
AH	Campoccia et al., "Semisynthetic resorbable materials from hyaluronan esterification," <u>Biomaterials</u> , Elsevier Science Ltd., 19, 1998, pp. 2101-2127
AI	Brun et al., "Chondrocyte aggregation and reorganization into three-dimensional scaffolds," <u>Journal of Biomedical Materials Research</u> , John Wiley & Sons, Inc., 46, 1999, pp. 337-346.
AJ	Aigner et al., "Cartilage tissue engineering with novel nonwoven structured biomaterial based on hyaluronic acid benzyl ester," <u>Journal of Biomedical Materials Research</u> , John Wiley & Sons, Inc., 42, 1998, pp. 172-181.
AK	Hollander et al., "Increased damage to type II collagen in osteoarthritic articular cartilage detected by a new immunoassay," <u>Journal of Clinical Investigation</u> , Volume 93, April 1994, pp. 1722-1732.
AL	Handley et al., "Assay of proteoglycan degradation," <u>Methods in Enzymology</u> , Academic Press, Inc., 1995, Vol. 248, pp. 47-58.
AM	Kozaci et al., "Degradation of type II collagen, but not proteoglycan, correlates with matrix metalloproteinase activity in cartilage explant cultures," <u>Arthritis &amp; Rheumatism</u> , Vol. 40, No. 1, January 1997, pp. 164-174.

Examiner

Date Considered

\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.